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ABSTRACT

Intended to help elementary school children learn about the resources of the Everglades and Biscayne National Parks, this activity book includes information, puzzles, games, and quizzes. The booklet deals with concepts related to: (1) the seasons; (2) fire ecology; (3) water; (4) fish; (5) mammals; (6) mosquitos; (7) birds; (8) venomous snakes; (9) endangered species; (10) mangrove habitats; (11) pineland habitats; (12) sawgrass habitats; (13) coral reefs; and (14) adaptation. Included is an answer page which provides the solutions to the individual questions and puzzles. (TW)

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EVERGLADES NATIONAL PARK

Activity Book

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Including

BISCAYNE NATIONAL PARK

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Introduction

Think about the word "Everglades" and you can imagine open meadows, or glades, that seem to reach forever beneath a huge sky. It really does look like that in parts of Everglades National Park in south Florida. The land is very flat, sparkling with water moving slowly through meadows of sawgrass and tangled forests of mangrove trees along the shoreline. It looks so quiet here, as if nothing exciting ever happens.

Yet...take another look! Does that old log floating motionless in a pond have eyes? Yes, it's an alligator watching for a turtle or other prey to come within reach. Look for a big bird swishing its spoon-shaped bill through the water to find tiny bits of food. A large cat may bound across the road at dusk, its short tail identifying it as a bobcat. The Everglades is full of surprises, where fascinating animals live without fear of harm from humans because they are protected in a national park.

Biscayne National Park, just a few miles away, is almost completely underwater! Islands dot the surface of the shallow bay, while below are living treasures in the form of coral and tropical fish. You can see them easily if you snorkel in the clear water or ride in a glass-bottom boat.

This book of activities will help you discover more of the surprises and interesting facts hidden in the Everglades and under Biscayne waters. Have fun and keep a sharp eye peeled.

Sincerely,

R. Alan Mebane
Chief Interpretive Ranger
Everglades National Park

This book was produced by Florida National Parks and Monument Association. The association furthers an interest in and understanding of historic and scientific values of the Everglades National Park, Biscayne National Park, Fort Jefferson National Monument in the Dry Tortugas Islands, and Big Cypress National Preserve.

Information for this book was compiled from the files of Everglades National Park.

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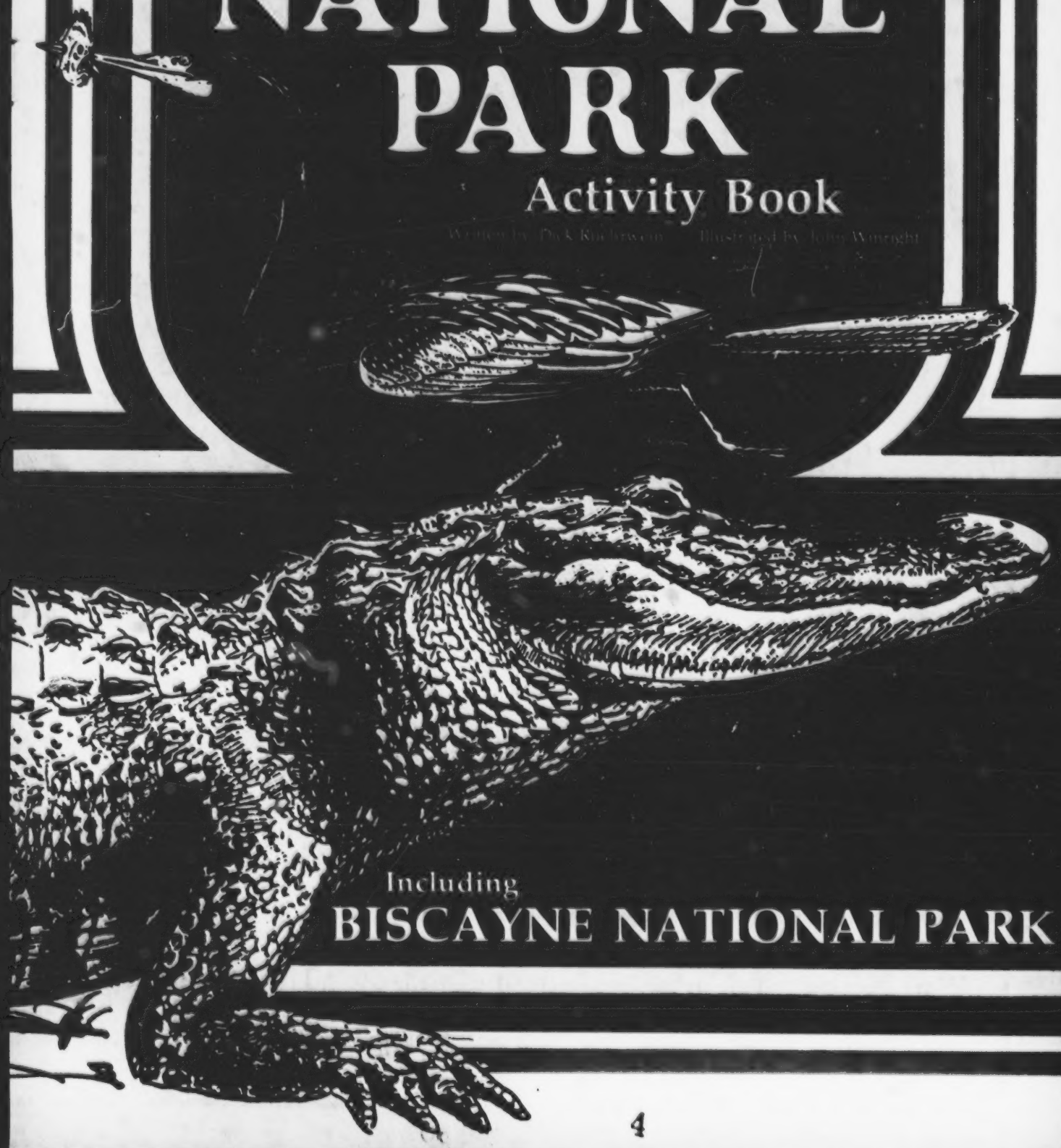
EVERGLADES NATIONAL PARK

Activity Book

Written by Dick Kirchenman Illustrated by John Wright



Including
BISCAYNE NATIONAL PARK

Everglades National Park

Everglades National Park protects nearly 2200 square miles of the area the Miccosukee Indians called Pa-Hay-Okee—Grassy Waters. The Everglades has a unique landscape. Here the land meets the sea. Freshwater merges with saltwater creating special habitats for birds, mammals, reptiles and fish. Many

secrets remain hidden in the Everglades. There is a delicate balance of life for both plants and animals. The actions of humans upon this balance can have serious effects. The Everglades depends upon people to survive. Color the plants and animals in the picture.

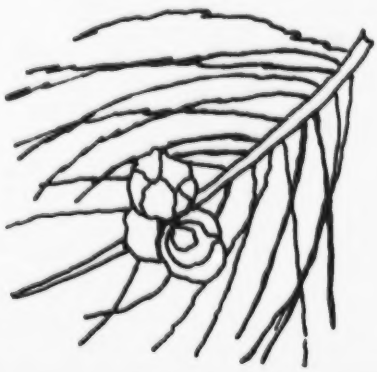
Everglade Seasons

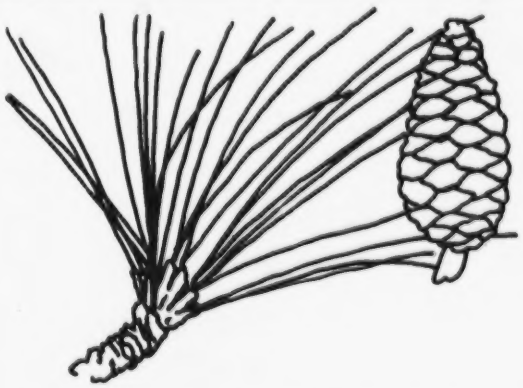
In the Everglades temperatures are about the same in summer and winter months. But, there is a great difference in the amount of rainfall. The summer is very rainy. It is a time when plants grow and become more lush. Animals disperse throughout the park where water and food now can be found. Birds migrate to the Park during the winter. The winter season is very different. It is dry. Water is scarce. Plants and animals must compete for it to survive. Four trees that live in the Everglades are in the picture. Using the clue, add one or more vowels to their names to identify them.

1. R__D M__NGR__V__ (It lives in shallow saltwater.)

2. P__ __S__N W__ __D (It can make your itch.)

3. CYPR__SS (It has knees.)





4. SL__SH P__N__ (It survives fires easier than other trees.)

Everglades Fire Ecology Code

Fire helps the Everglades ecosystem to stay healthy. Its natural groups of plants need fire to thrive. To learn more about fire in the Everglades, decode the messages. Place the correct letter from the alphabet code in the space above each number to decode the sentence.

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

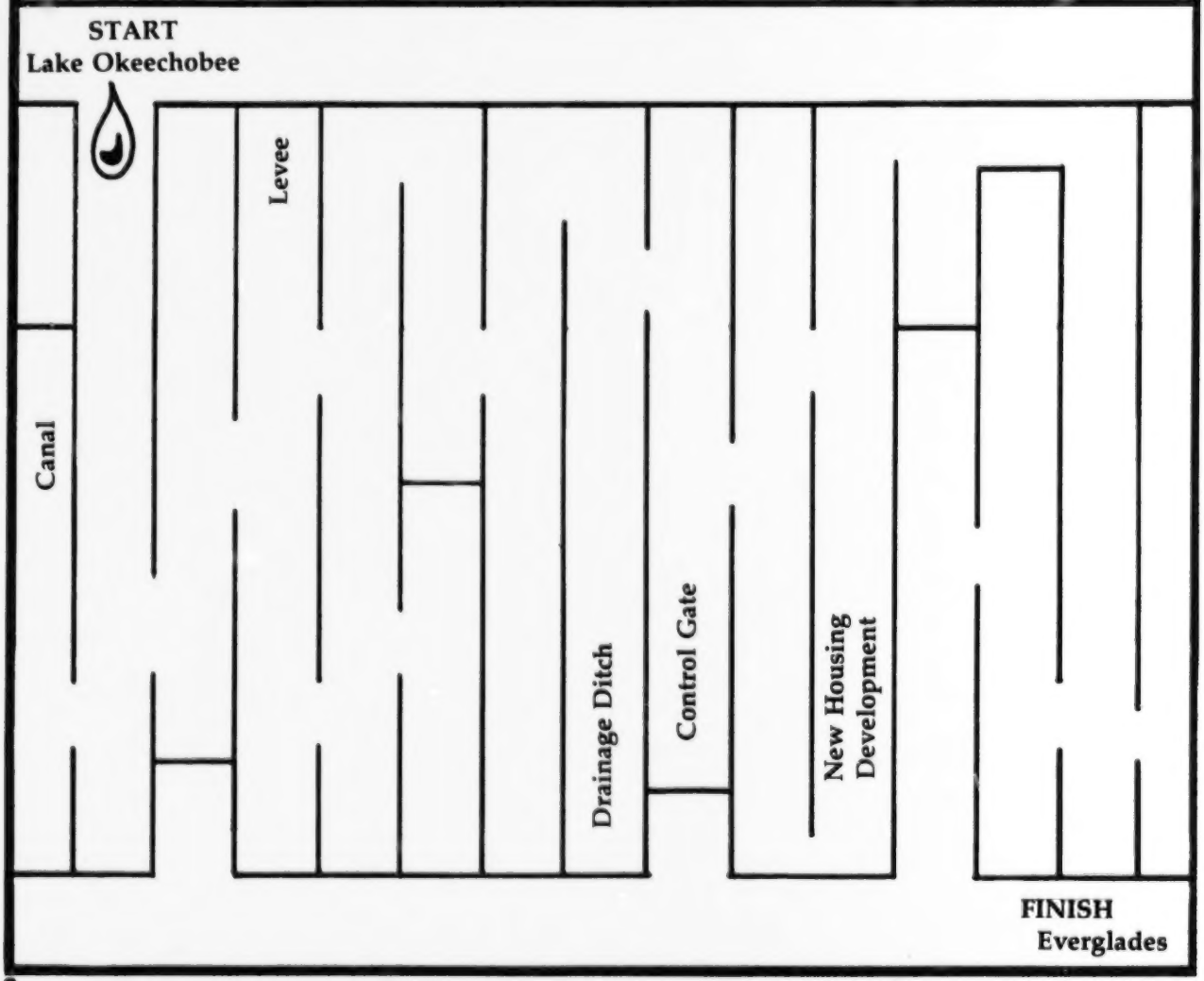
1. _ _ _

Water Maze

The Park depends upon water that drains from Lake Okeechobee, 100 miles north. Before man, the lake overflowed its banks during the wet season and water ran southward into the Everglades. Now humans have built canals, levees, drainage ditches and control gates. Water flowing into the Everglades does so now at the bidding of people. Needs of life in the Everglades competes with human needs for water and flood protection. When one part of an ecosystem is destroyed, what happens to the animals and plants living there? _____

_____

Suppose you are a drop of water. Can you get through the maze of dangers to save a plant?

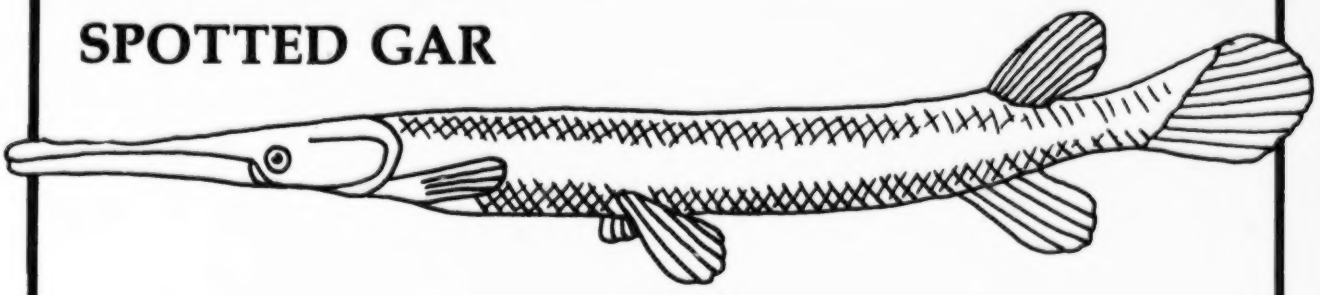


6

Fish in the Everglades

There are many different fish living in the Everglades. Some of them live in the freshwater inland streams, others live in saltwater that touches the coast. Find the names of these fish of the Everglades in the hidden word puzzle. Their names may be printed forward, backward, up, down, or diagonal.

SPOTTED GAR



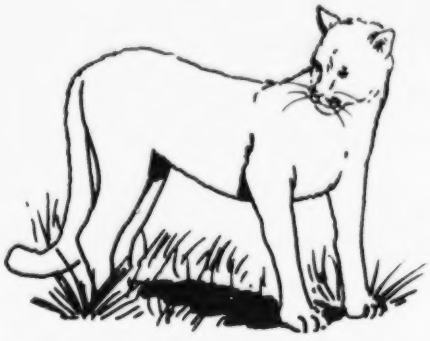
MOSQUITOFISH	SNOOK	BASS
TARPON	BONEFISH	JACK
SEA TROUT	MULLET	BREAM

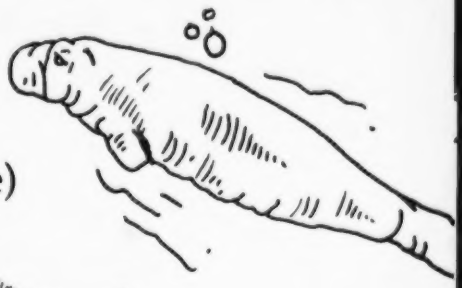
M O S Q U I T O F I S H E K
O L L U Y T G F R T F U C S
R T A R P O N B R E D A S E
H D E R T Y U O N B J F E A
S N O O K E T N G H M E D T
I G T R E D S E R T U J K R
M G H J K F D F H H L G E O
A J Y R D S W I U T L A S U
E G F S X C V S F G E R T T
R D S D E H J H U K T F E I
B A Y T R F H J U I K H N S
B G T R E I K J N B G T R H
L S P O T T E D G A R B D O

7

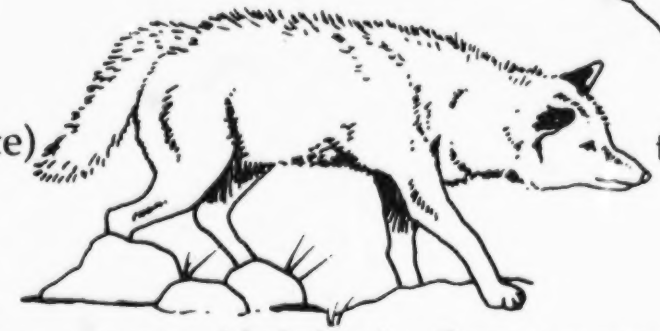
Mammals in the Everglades

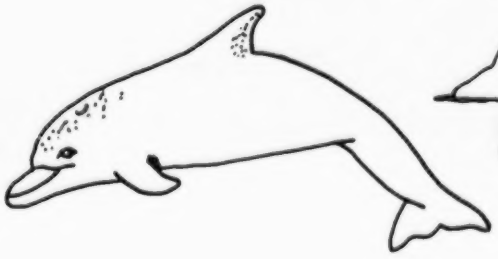
The Everglades has many species of mammals. Circle the mammals illustrated on these pages that live in the Everglades. Three animals in

A mammal (panther)  is a warm-blooded,

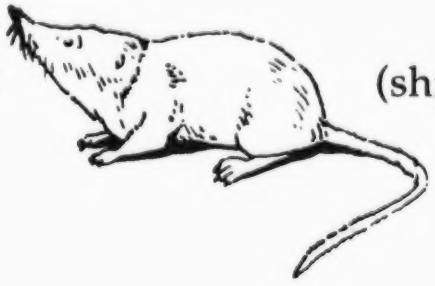


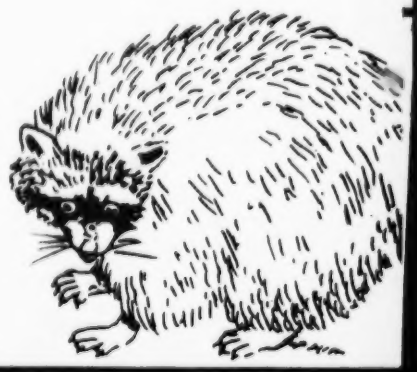
everywhere, from the hot Everglades (manatee)

with little water (coyote)  to marshland



ocean (dolphin) . Some mammals range in

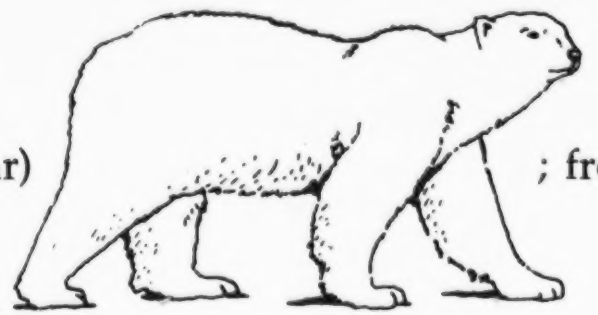
to a few ounces  (shrew) . Some mammals eat meat

and some eat meat, fruits, and plants (raccoon) 

the picture do not live in the Everglades. Mark them with an "X". Color the mammals.

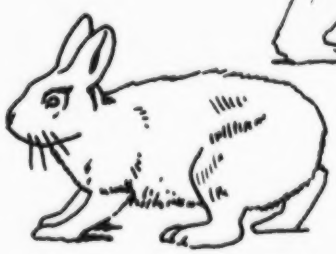
air-breathing vertebrate covered with fur. Mammals live almost

to the cold Arctic (polar bear)

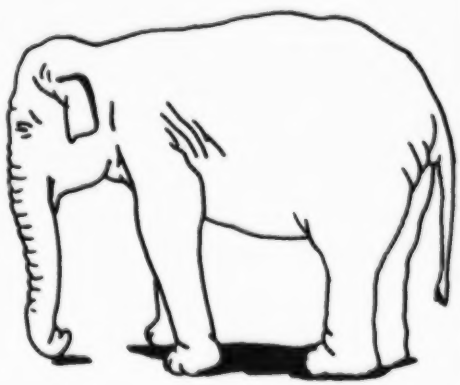


; from deserts

(marsh rabbit)

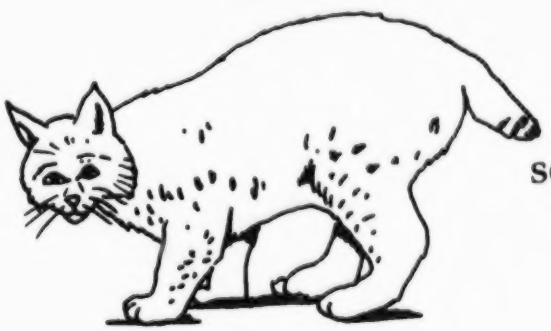


to the vast

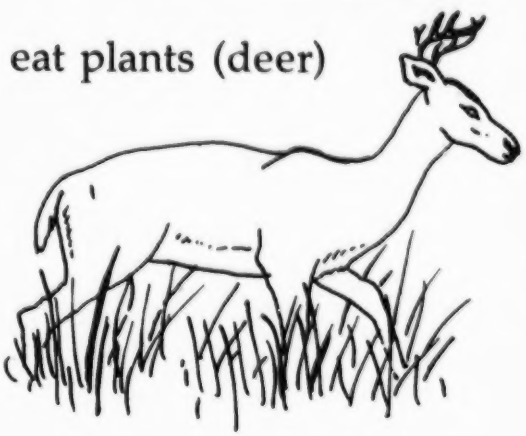


weight from thousands of pounds (elephant)

(bobcat)

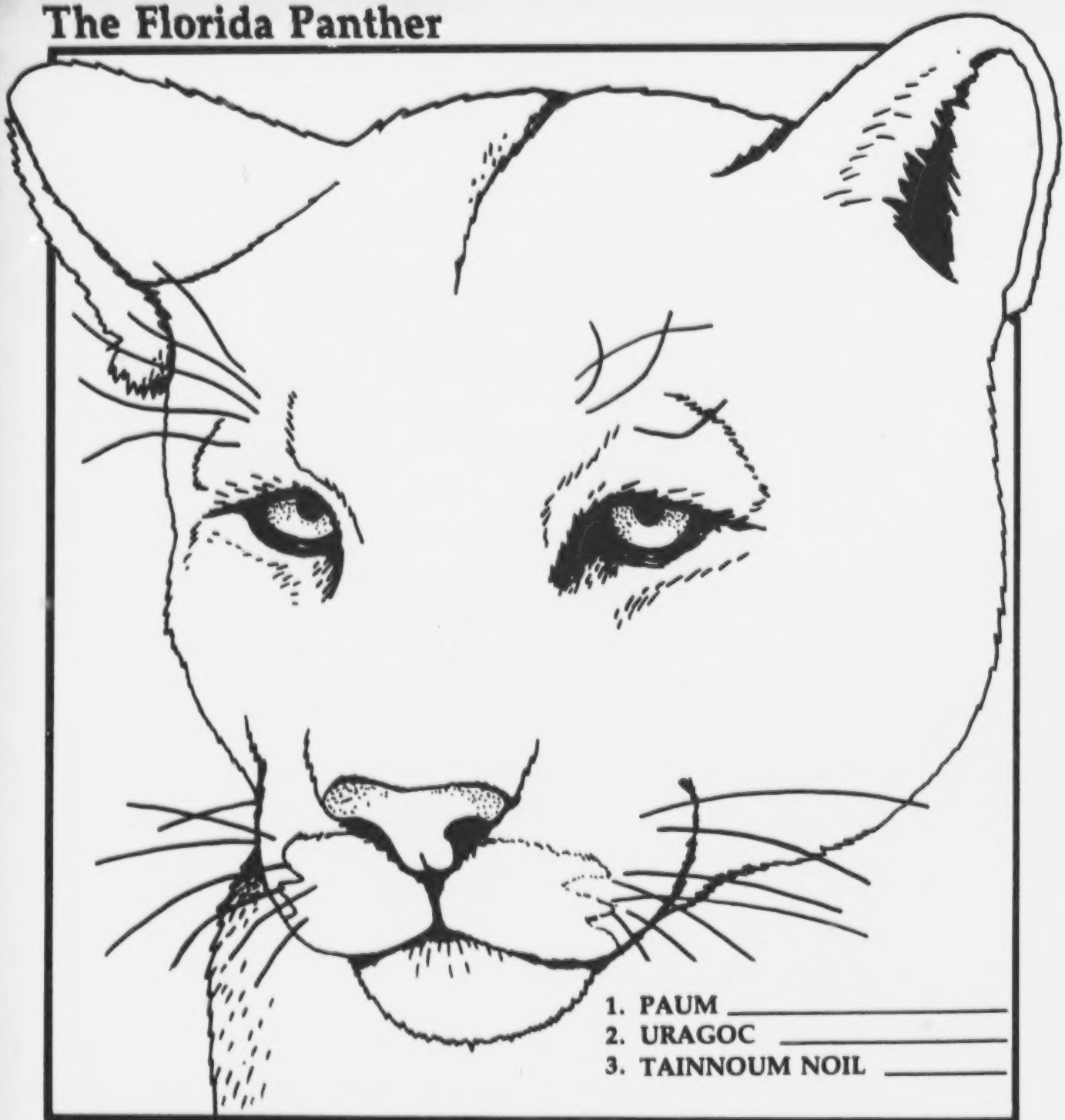


some eat plants (deer)



All mammals feed their young milk.

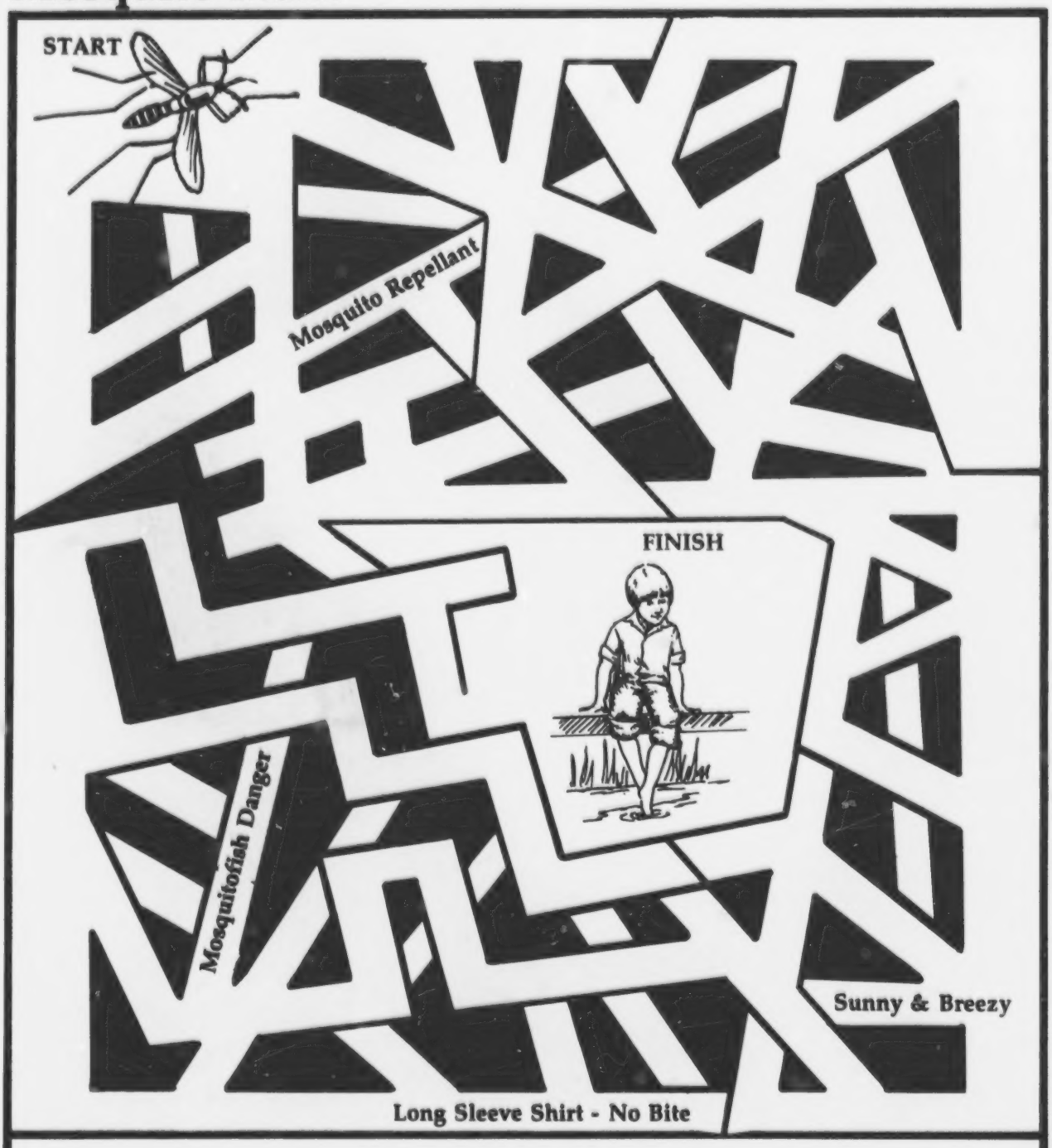
The Florida Panther



1. PAUM _____
2. URAGOC _____
3. TAINNOUM NOIL _____

The panther is the largest of the wildcats. In the Everglades it is tan with black ears and six to seven feet long. Now rare and hard to see, panthers feed on deer and smaller animals. It is believed that there are less than thirty left in the Everglades. Unscramble the words and find three other names the panther is called.

Mosquito Maze



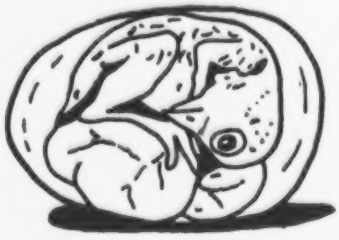
The mosquito is very active in the Parks from April through November. Some areas are too heavily infested for a comfortable visit. Mosquitos are dormant in the grass during the day and are most active at sunrise and sunset. They avoid open, sunny, breezy areas. Suppose you are a mosquito. Can you get through the maze of dangers to bite a person?

What is a Bird?

A bird (Snowy Egret) is a warm-blooded, air-breathing vertebrate with feathers. Birds live almost everywhere, from the hot Everglades (Roseate Spoonbill) to the frozen ice packs (Penguin); from the deserts (Roadrunner), to the vast oceans (Laughing Gull). Birds eat everything from wild fruit (White Crowned Pigeon) to fish (Osprey).

The Egg

Birds don't give birth to babies like mammals. They lay eggs. The egg protects the baby and contains the food the chick needs while it is growing inside of the egg.

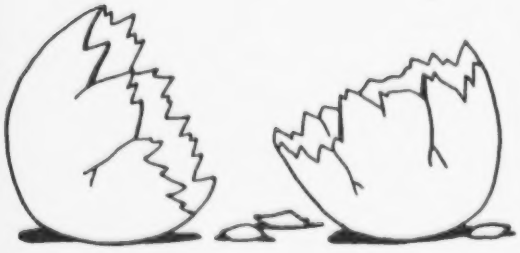


This is a nearly-grown chick inside an egg. How will it get out? _____

_____

_____

Draw the chick after it hatches.



What will the chick look like when it becomes an adult bird? Draw it. Include the following characteristics: feathers, wings, two feet, beak.

Birds

There are more than 300 species of birds living in the Everglades. All kinds of birds live here. Wading birds, land birds, water birds and birds of prey. The Everglades is famous for its rookeries. What is a rookery? _____

_____

Here are 4 birds of the Everglades. Match the kind of bird it is by drawing a line from its name to its picture.

Anhinga **Limpkin**

Southern Bald Eagle **Pileated Woodpecker**

1. A wading bird

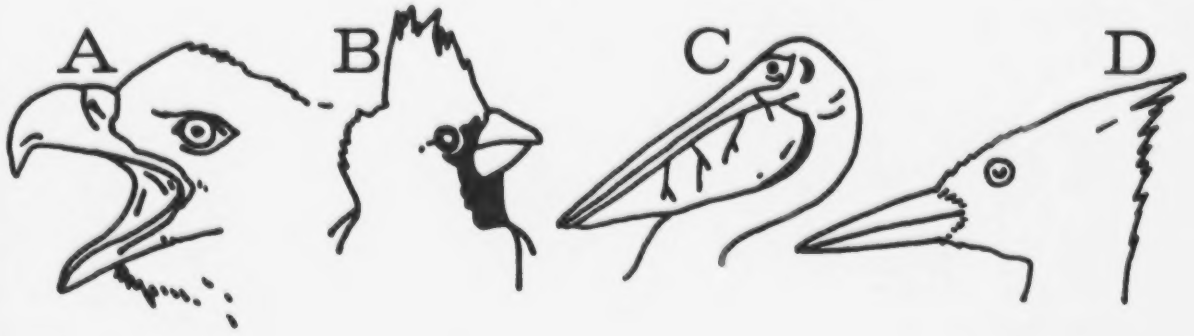
2. A water bird

3. A bird of prey

4. A land bird

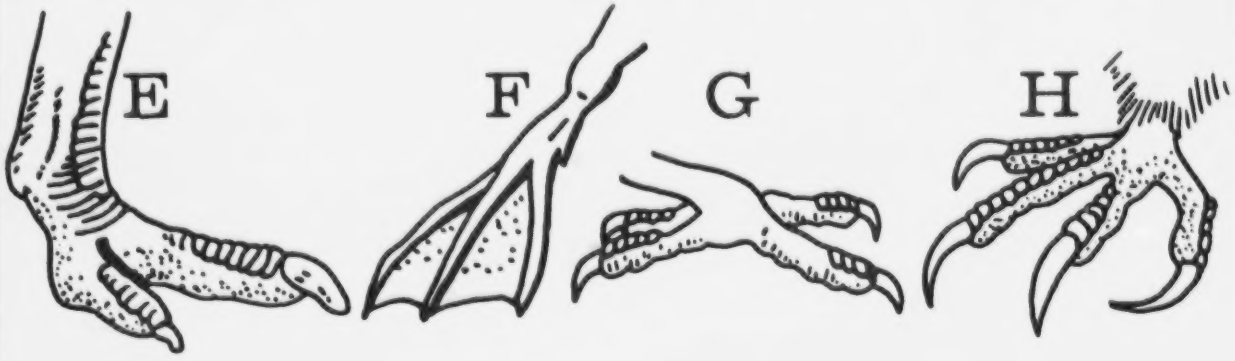
Beaks and Feet

Different birds have differently shaped beaks. The shapes of birds beaks can show how they use them. Draw a line from the picture to the phrase that describes how each bird uses its beak.



Scooping fish Pecking holes in wood Tearing meat Cracking Seeds

Different birds have different types of feet. The types of feet can show how the birds use their feet. Draw a line from the picture to the phrase that describes how each bird uses its feet.



Swimming Catching Prey Perching on a branch Running

Bald Eagle - Bird of Prey

The bald eagle is a bird of prey. It is a good hunter and feeds mainly on small rodents, reptiles and insects which help to maintain the balance of nature. All birds of prey have long, sharp talons or claws, large hooked beaks, good eye sight and strong wings. It is against the law to shoot or keep a bird of prey or any part of one such as an egg or feather.

1. Circle the name of a bird that is not a bird of prey.
   Owl Hawk White-crowned pigeon Eagle

2. Circle the food that a bird of prey would not eat.
   Snake Marsh rabbit Cotton rat Mangrove squirrel Fruit

3. Circle the bird that is the U.S. symbol of freedom.
   Pelican Eagle Falcon Osprey

4. Circle the phrase or phrases that describes birds of prey.
   Strong Wings Long Talons or Claws Good Eye Sight
   Large Hooked Beak Eat Live Prey

PA-HAY-OKEE

"GRASSY WATERS"

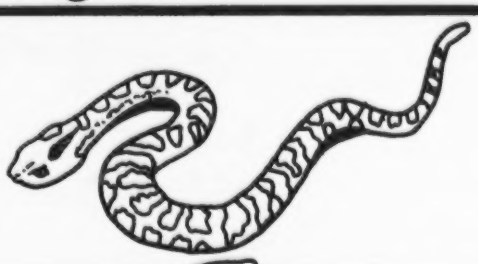
Written By Reporter:

Someone has just called you to report seeing an Eastern diamondback rattlesnake. The Eastern diamondback is the largest rattler in the U.S.A. and is very dangerous. Write the story as it was reported to you by the eyewitness. Then sketch a picture of the Eastern diamondback rattler as it was described to you.

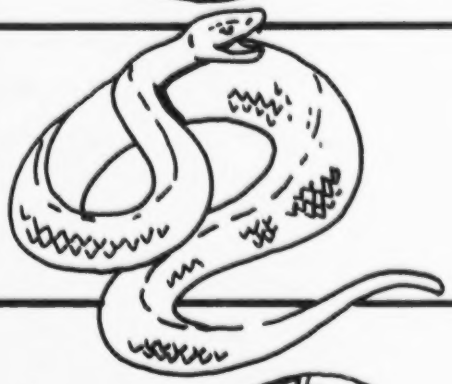
(Facts reported to you: Diamond pattern on back, length - 5 feet, triangular head with no plates on top, and the tell-tale rattler. Seen in hammocks and open country eating small rodent.)

Eastern Diamondback Rattlesnake sketched by *Pa-Hay-Okee News* Artist: _____

Everglades' Venomous Snakes

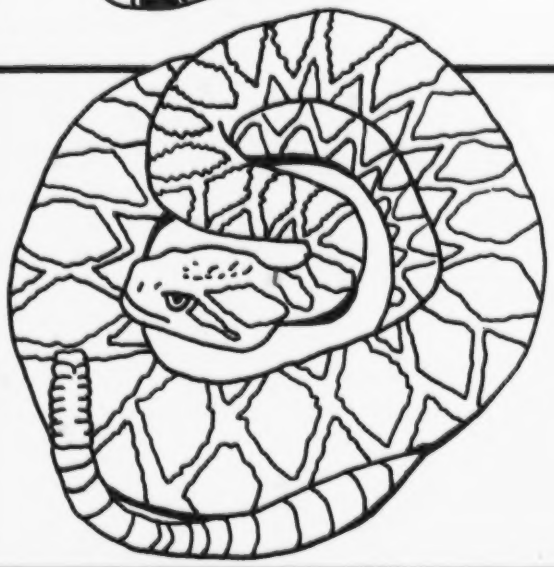


A. PIGMY RATTLER
It is rarely over 2 feet long. It is gray-brown marked with darker blotches.



B. WATER MOCCASIN (Cottonmouth)
It is thick bodied and has no rattle. Its head is pitted, wide at the base.

C. CORAL SNAKE
It is small, and does not bite readily. It has a black nose and rings of yellow, black and red which encircle its body. Be cautious: several harmless snakes look similar.

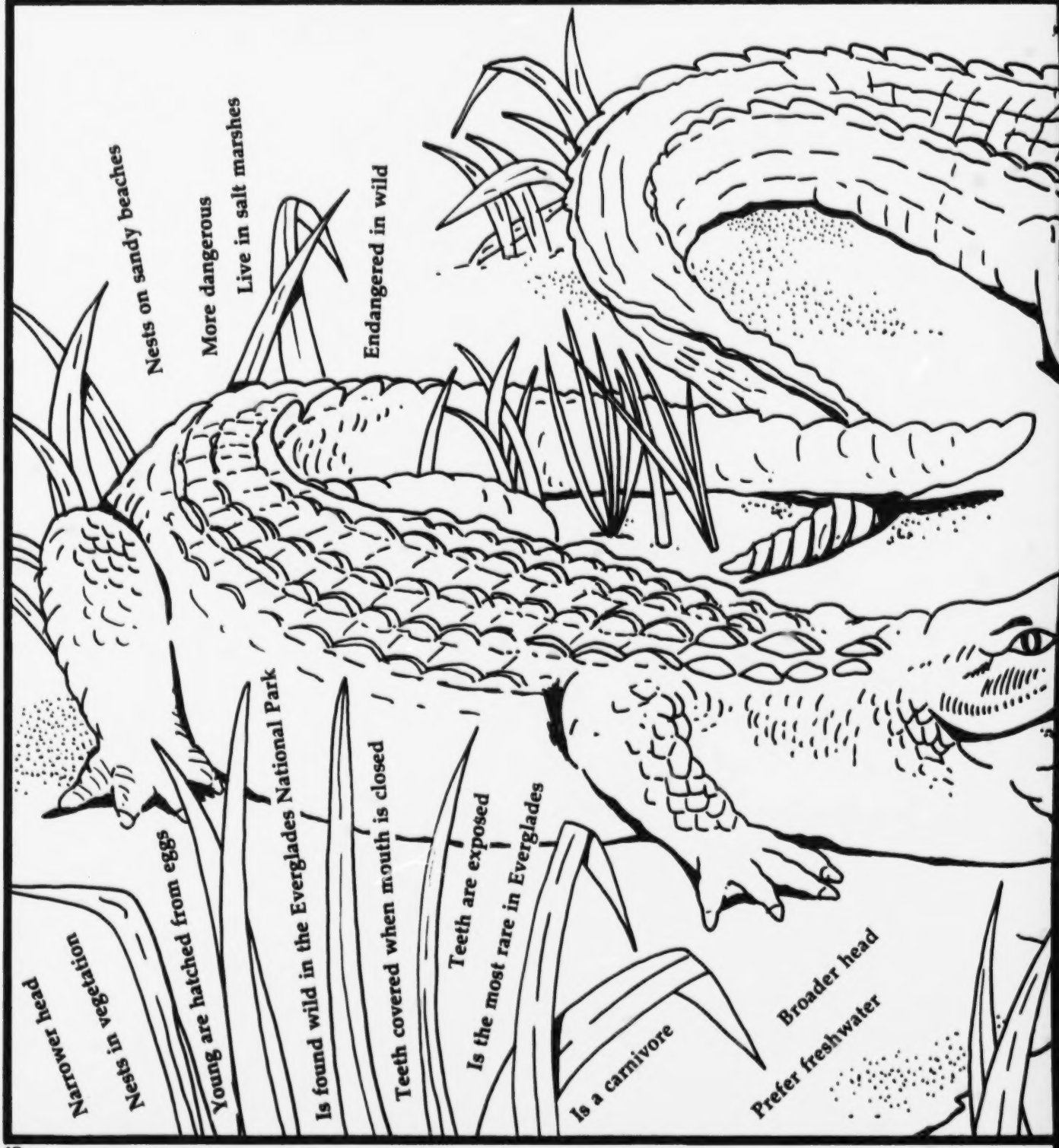


D. EASTERN DIAMONDBACK
Largest rattler and very dangerous. Average length 5 feet. Diamond pattern on back. It has the tell-tale rattler.

Drawn in the picture are four venomous snakes living in the Everglades. The Everglades has 21 non-poisonous snakes which are seen most often. All of these snakes are protected in the parks and all are important.

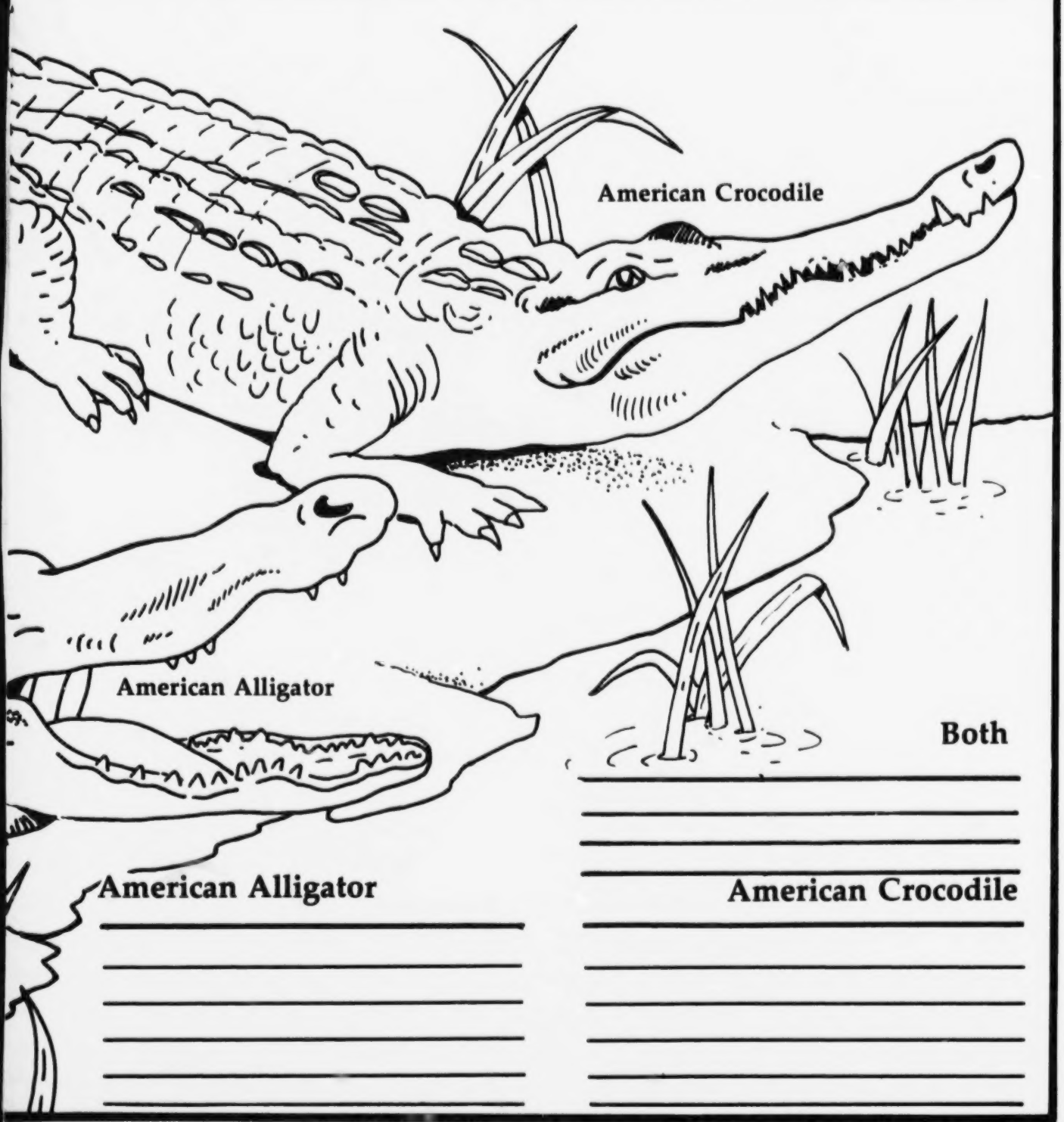
What's the Difference?

The American Alligator and American Crocodile are both large reptiles. If you look in the grass you'll discover some characteristics. If the characteristic describes one of the



animals then write it below the name of the animal. If the characteristic is about both of the animals then write it under the word "Both".

(Answers are on page 32 if you need help).



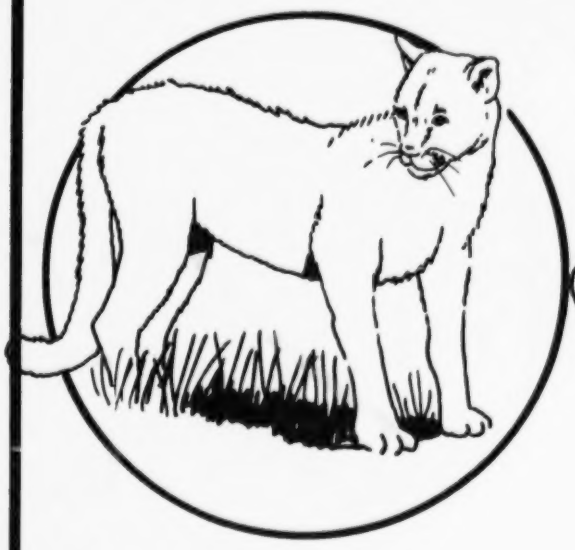
Both

American Alligator

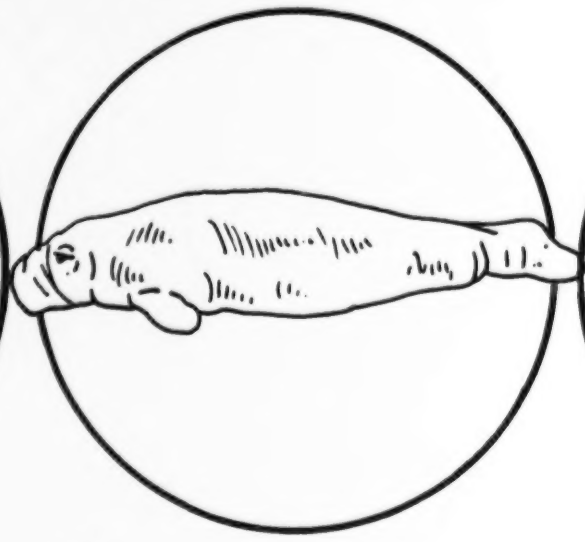
American Crocodile

Endangered Animals of the Everglades

Many animals are endangered in the wild because man is destroying their habitats, polluting the water and air and killing them for sport. The Everglades has a number of animals that are disappearing from the wild. Using the list of endangered animals choose the correct name and write it under the animal in the picture.

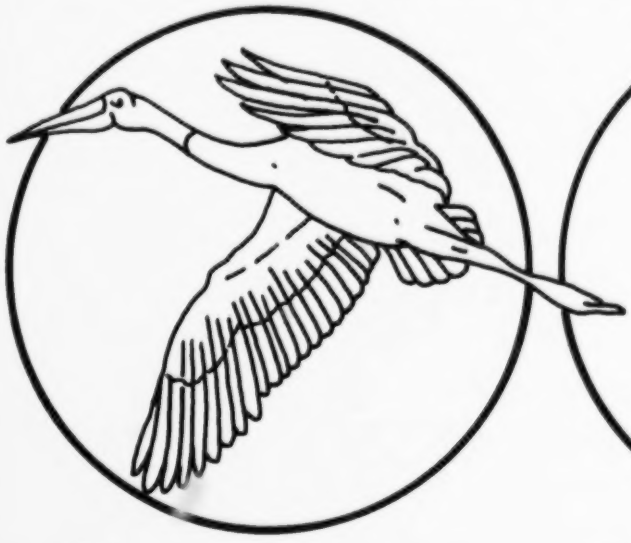


1 _____



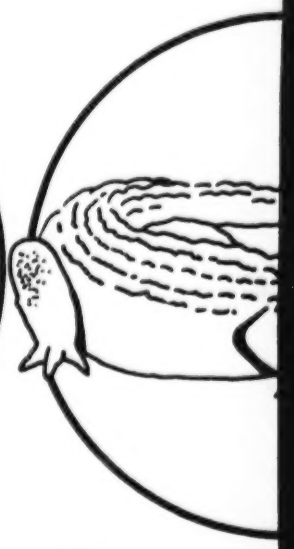
2 _____

3 _____



6 _____

7 _____

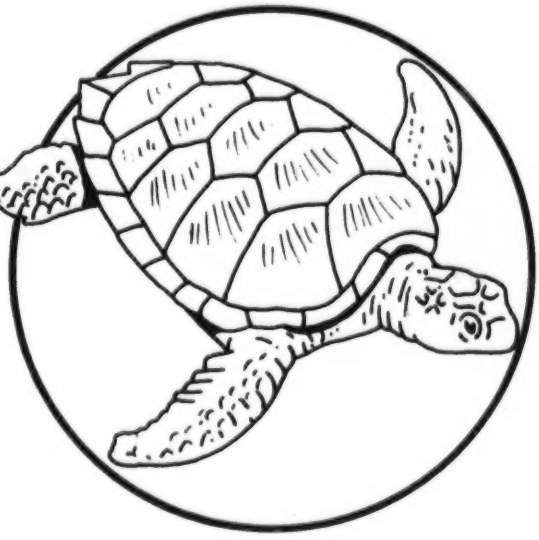


8 _____

Red Cockaded Woodpecker
American Alligator
Cape Sable Sparrow
Wood Stork

American Crocodile
Eastern Indigo Snake
Green Turtle

Panther
Manatee
Southern Bald Eagle



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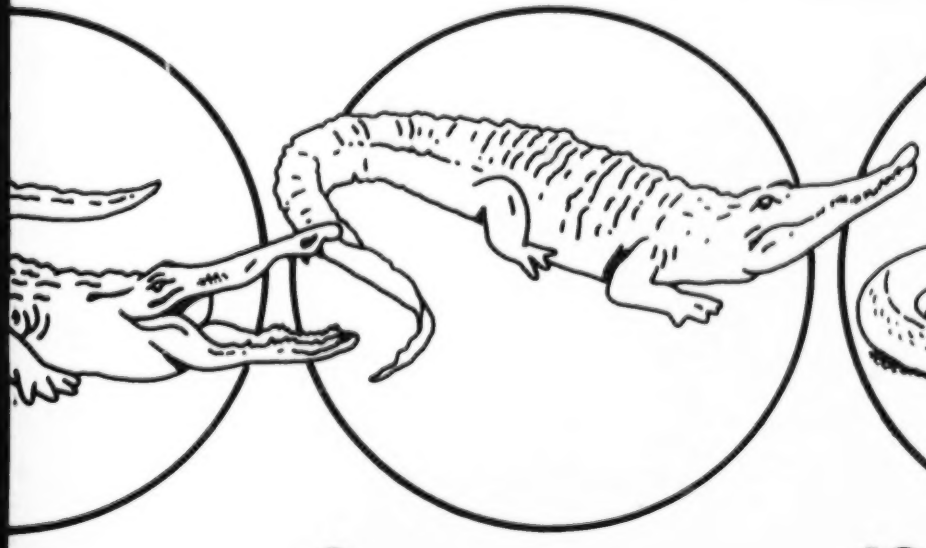
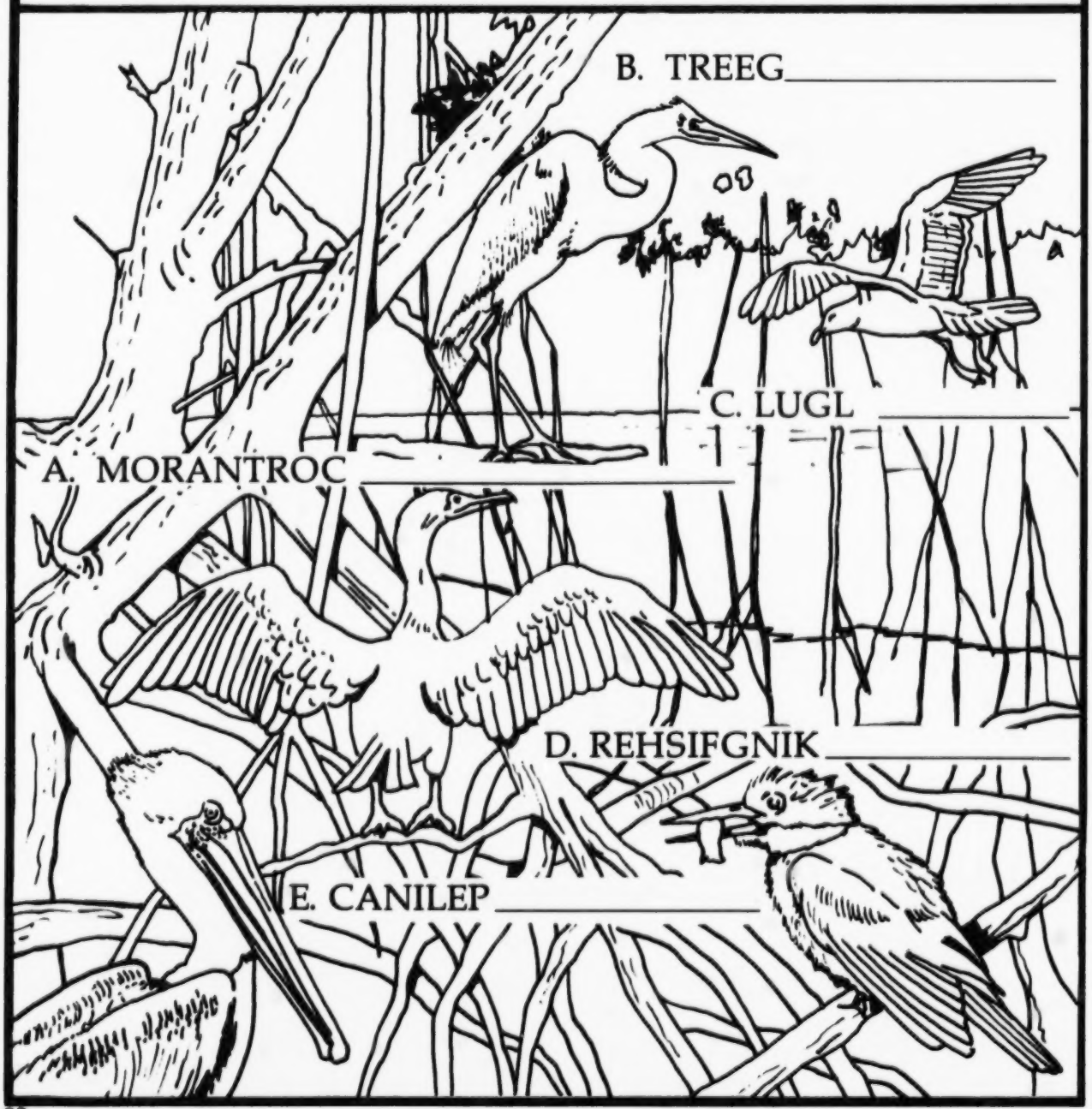


9 _____

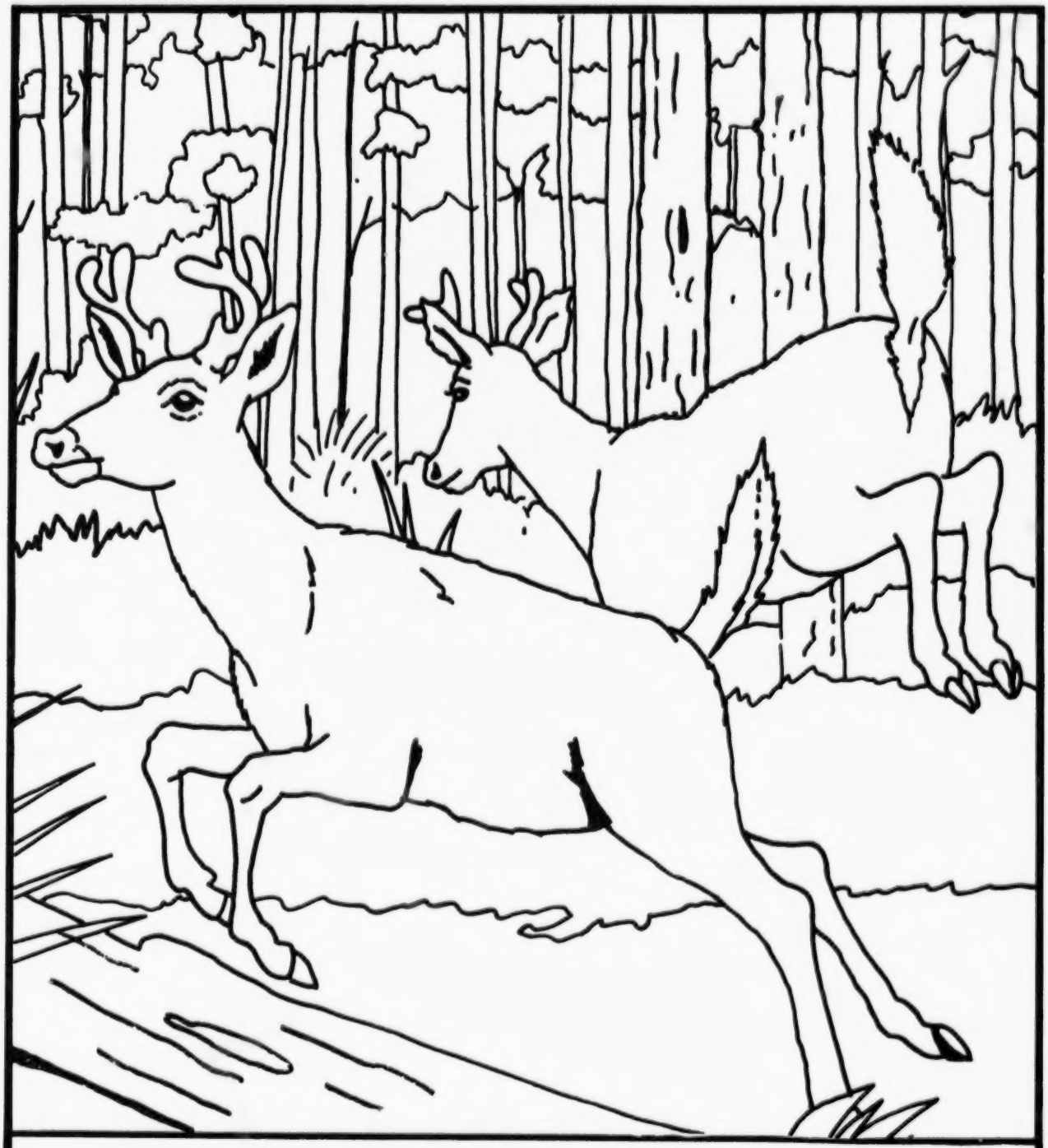
10 _____

Mangrove Habitat

Much of the coast in the Everglades is made up of dense thickets of mangrove trees. The land is only a few inches above sea level. Most of the great bird rookeries are found in the mangrove habitats. The mangrove and buttonwood trees grow here because saltwater does not disturb their growth. Unscramble and identify these birds that nest in the mangrove habitat.



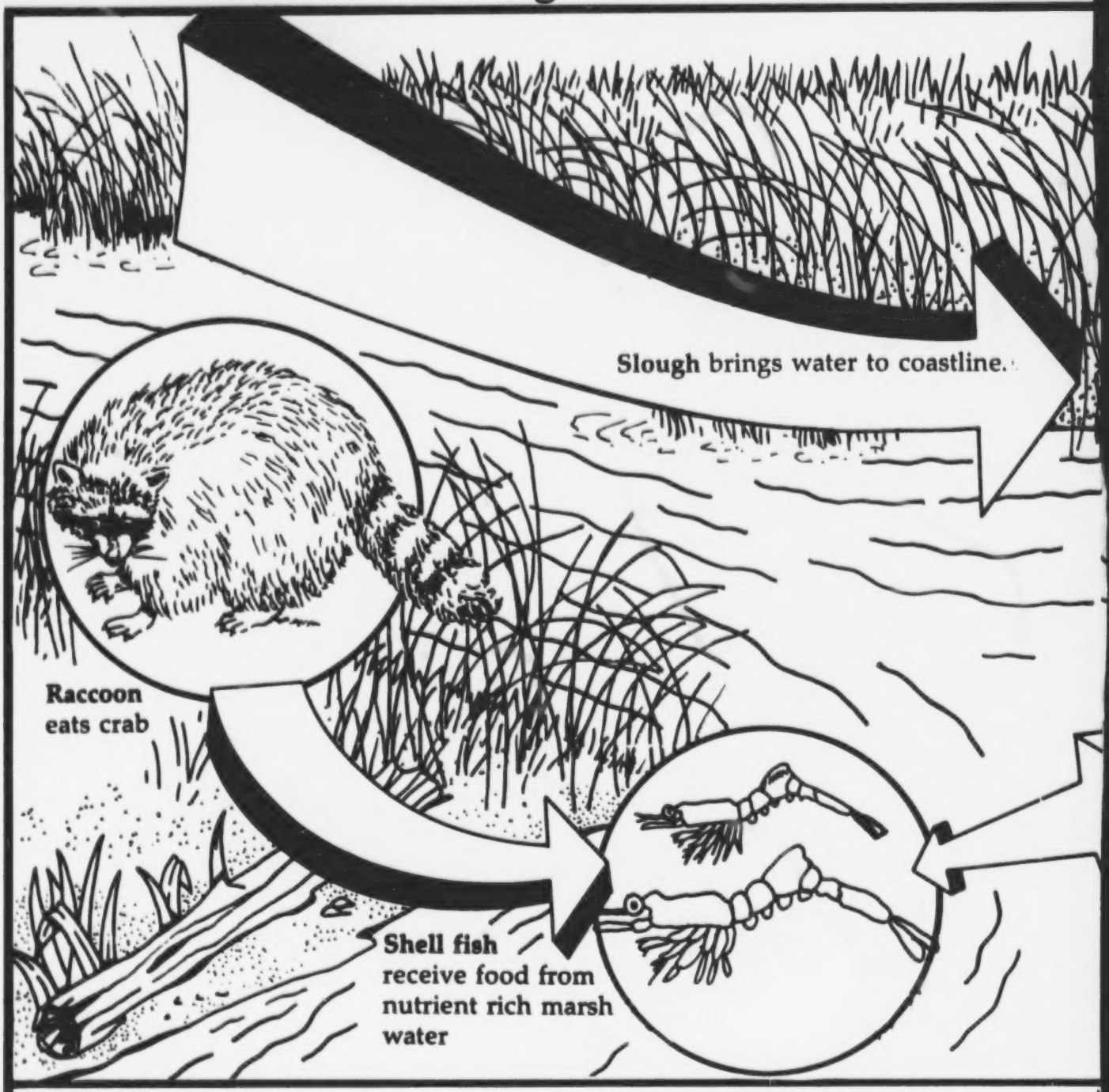
Pineland Habitat



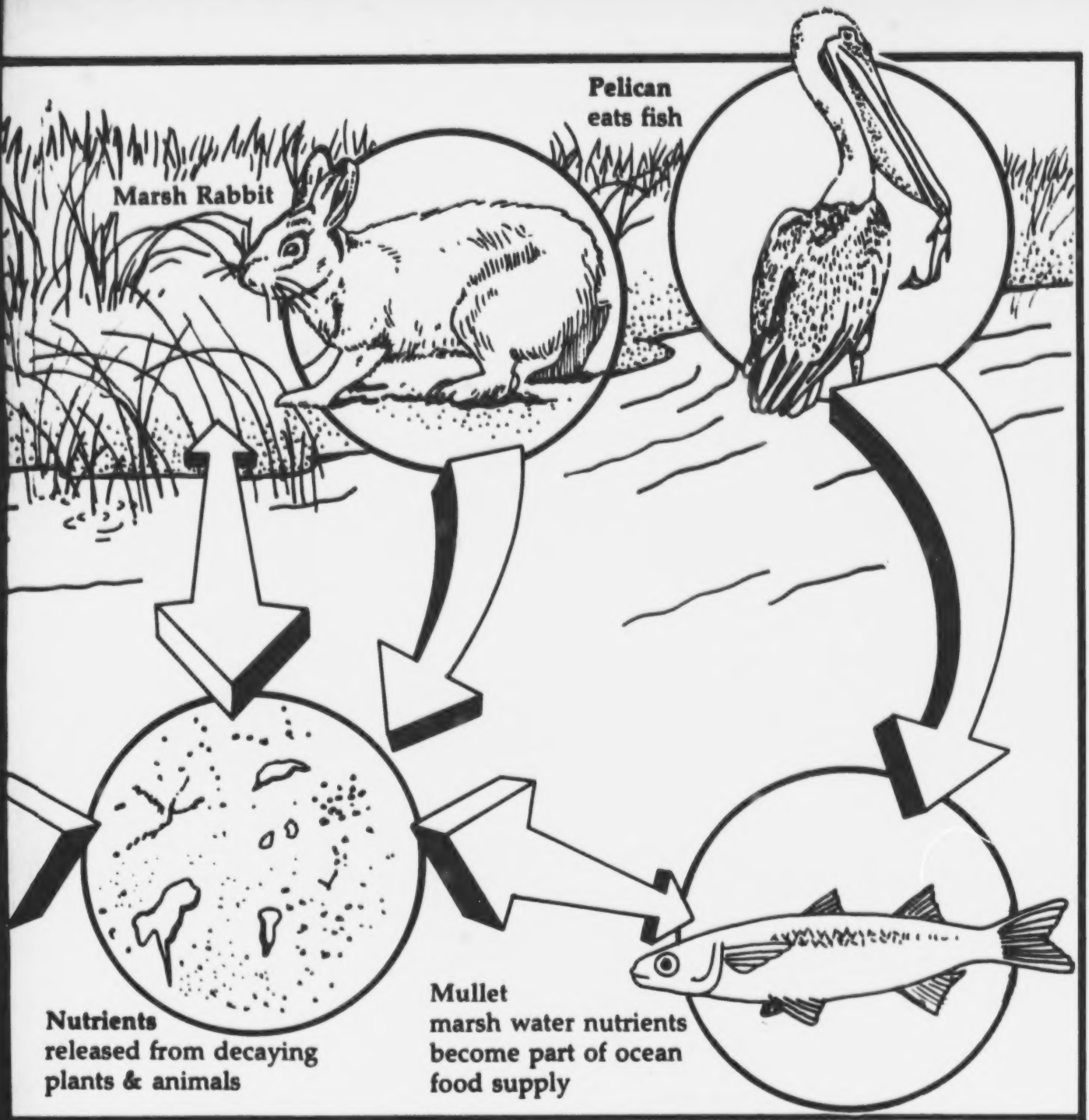
Pine forests grow in the Everglades atop limestone, and depend upon fire to survive. The pines are fire resistant. Fires burn out thick growth of hardwood trees that would crowd them out. Name this animal that lives in the pineland habitat of the Everglades.

_____

Wild Hammocks and Sawgrass Habitat

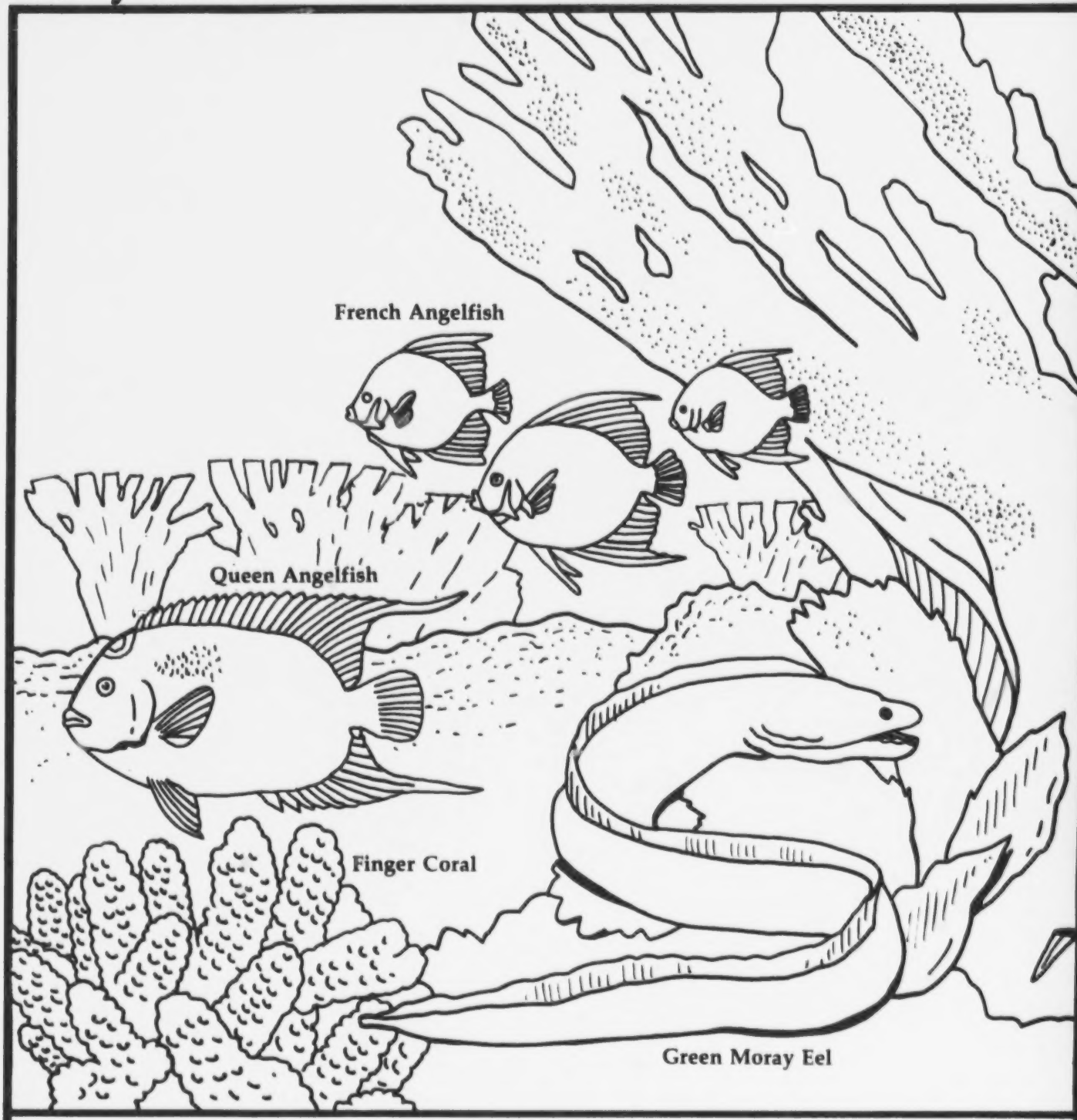


The endless "river of grass" (sawgrass) dotted by hammocks, isolated stands of hardwood trees, is the habitat for much of the Everglades plant and animal life. Deep ponds and sloughs hold water all year and shelter gar, alligators, otters and many wading birds. There is an abundance of food for birds and larger animals. Here grasslands become wet with slowly moving water. Water that flows from the north helps

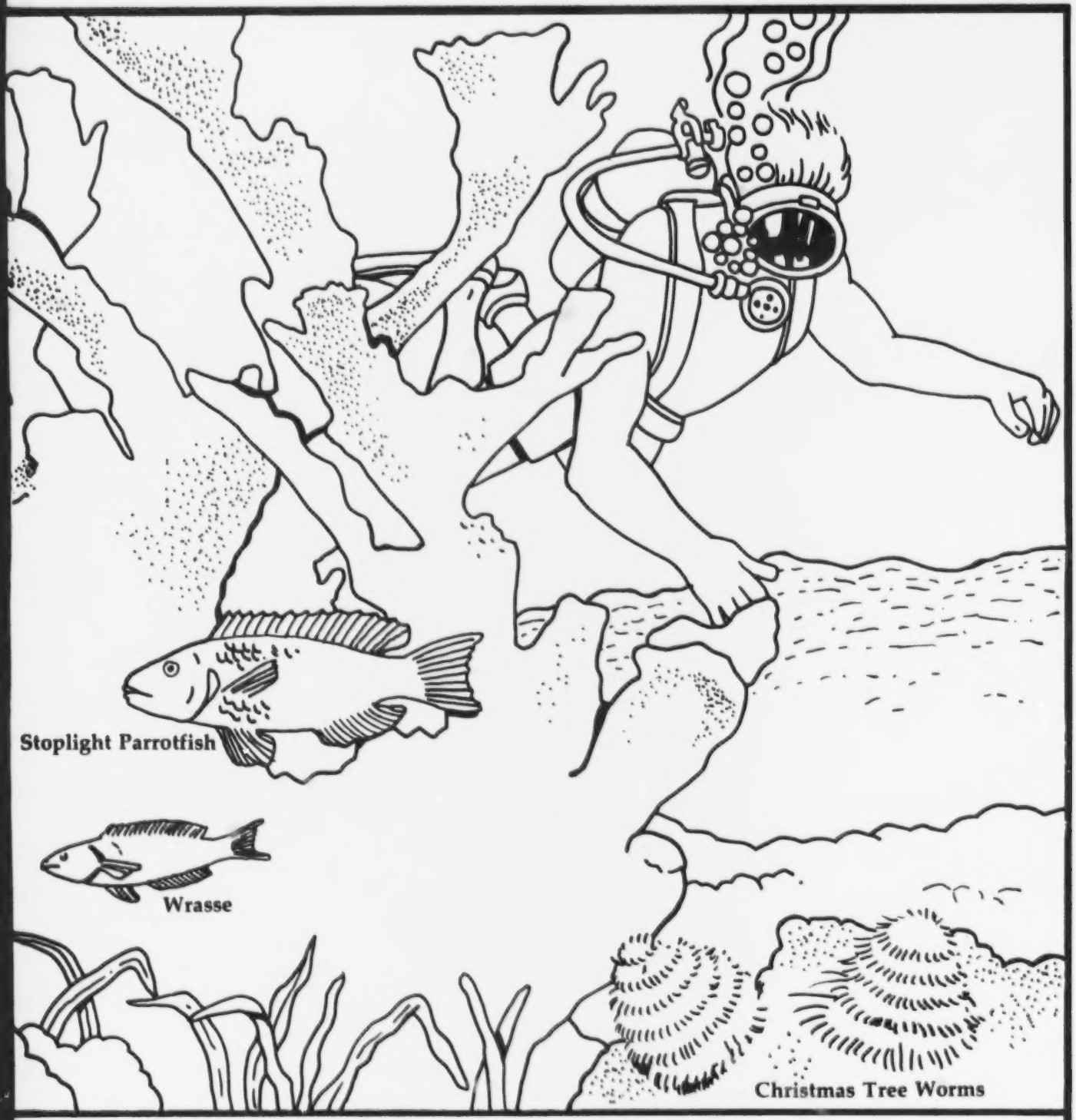


feed the sawgrass. The sawgrass provides food and shelter for the wildlife of this ecosystem. As plants and animals die, they decay and return nutrients to the water. The nutrients feed shrimp and fish that in turn are eaten by people, pelicans, raccoon and many other animals. Ducks and insects live in this ecosystem too. Draw them in the picture.

Biscayne National Park/Coral Reef

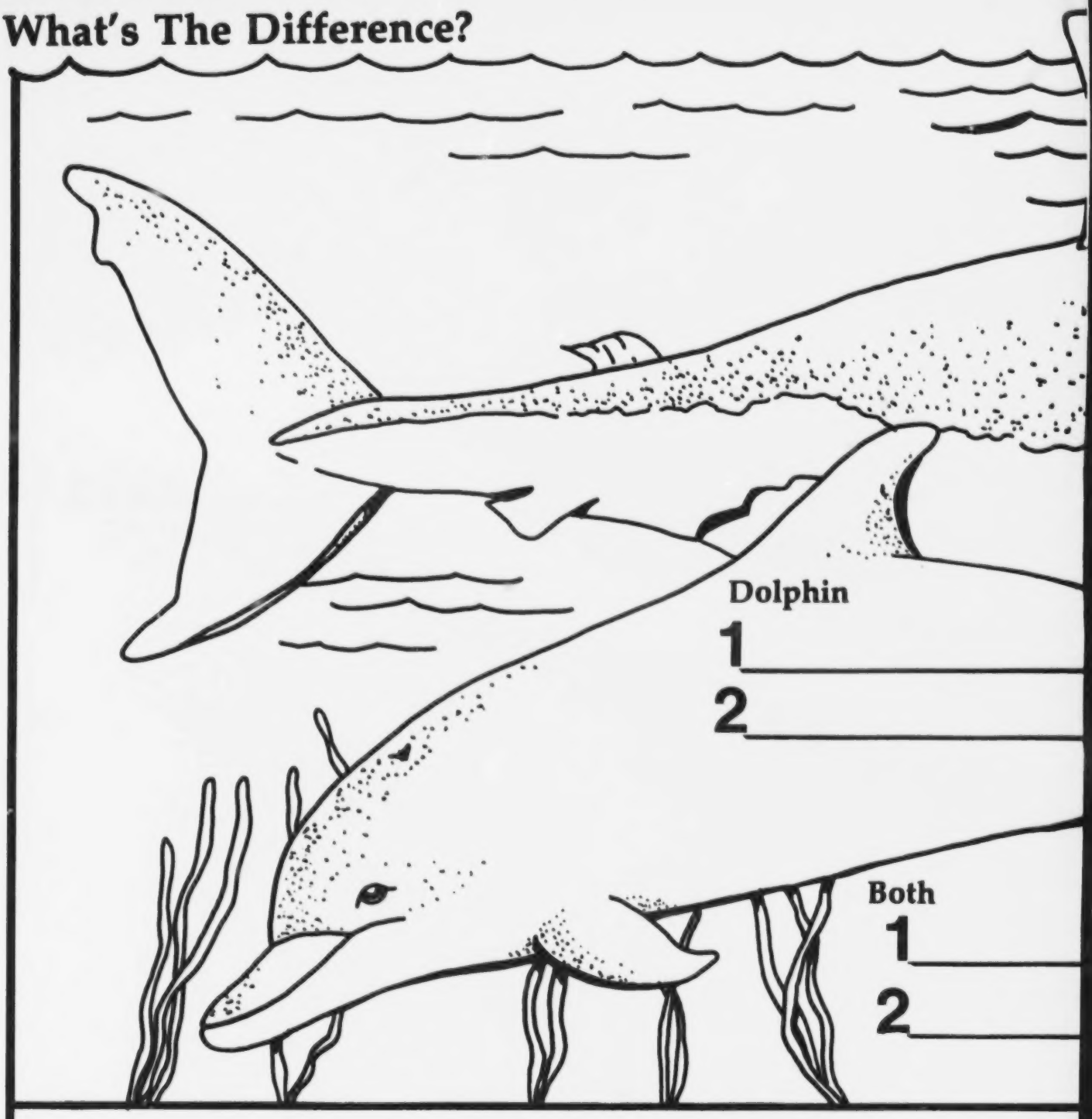


Biscayne National Park has clear blue water, bright yellow sun and a big sky. It is a subtropical place where a mainland mangrove shoreline, a warm shallow bay and many small

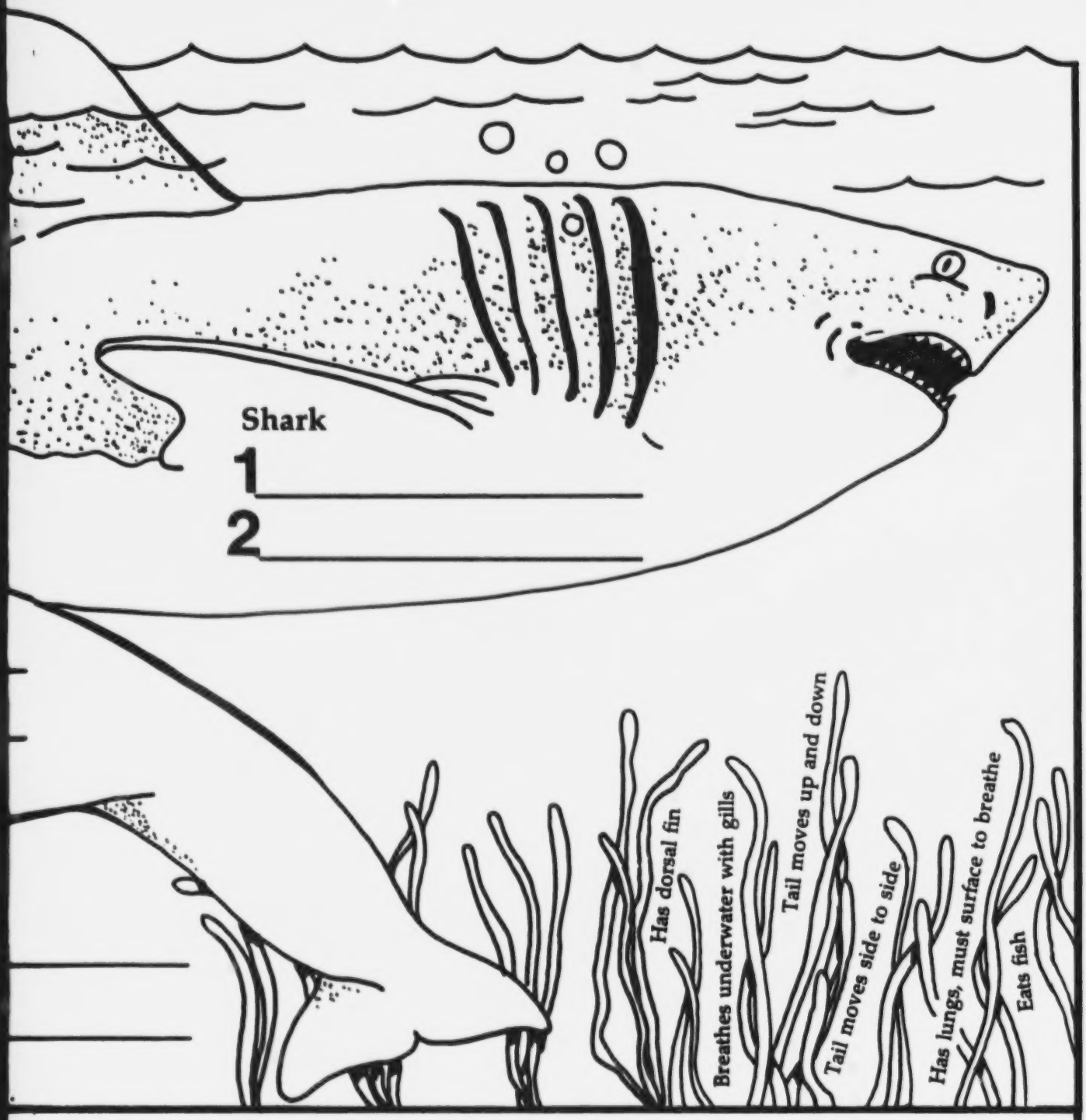


islands and living coral reefs intermingle. Biscayne is a habitat for marinelife and water birds. Colorful tropical fish and other curious creatures populate the reefs. Color the picture.

What's The Difference?

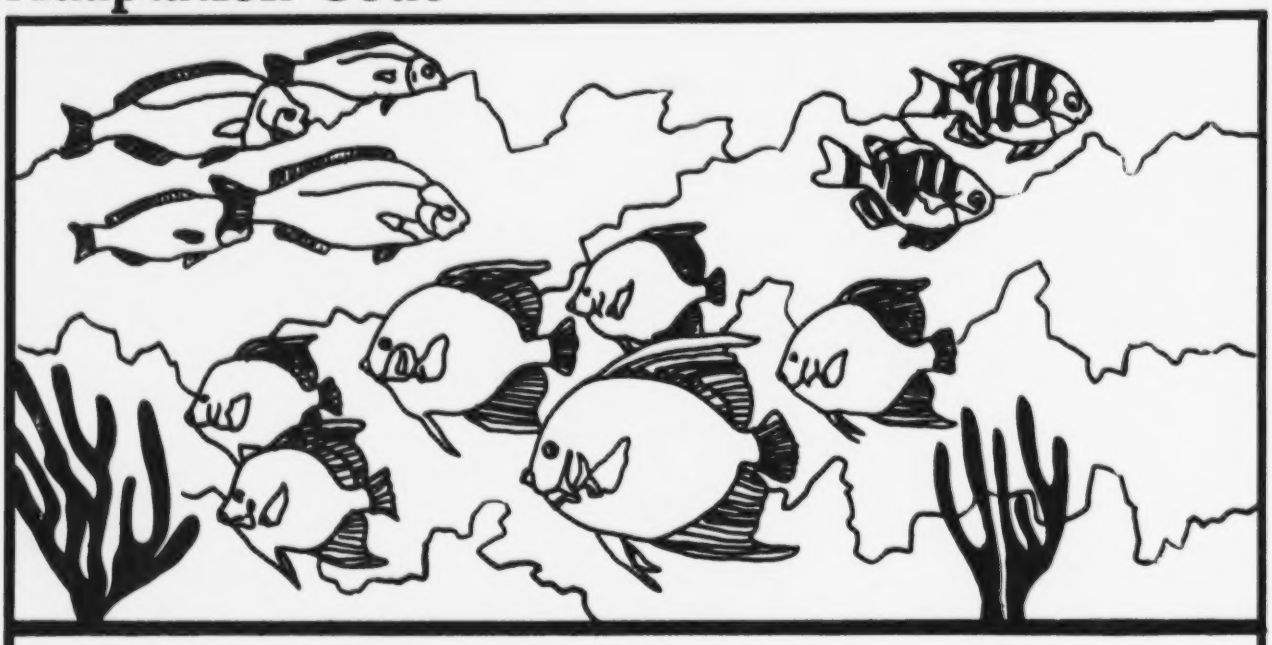


Do you know why people get these two animals mixed up? If you look in the sea grass you'll discover some characteristics. If the characteristic describes only one of the animals then write it on the animal who has it. If the



characteristic is about both of the animals then write it under the word "both". (The dolphin referred to is a mammal dolphin, not a dolphin fish which is known as the mahi-mahi).

Adaptation Code



A. _ _ _ _ _ _ _ _ _ _ _
3 1 13 15 21 6 12 1 7 5
An animal blends with its background to hide from its enemies.

B. _ _ _ _ _ _ _ _ _
19 25 13 2 9 15 19 9 19
Two kinds of animals living together to survive.

C. _ _ _ _ _ _ _ _ _
20 5 18 18 9 20 15 18 25
A certain place an animal lives and defends.

D. _ _ _ _ _ _ _ _ _
19 3 8 15 15 12 9 14 7
Many of the same fish swimming together.

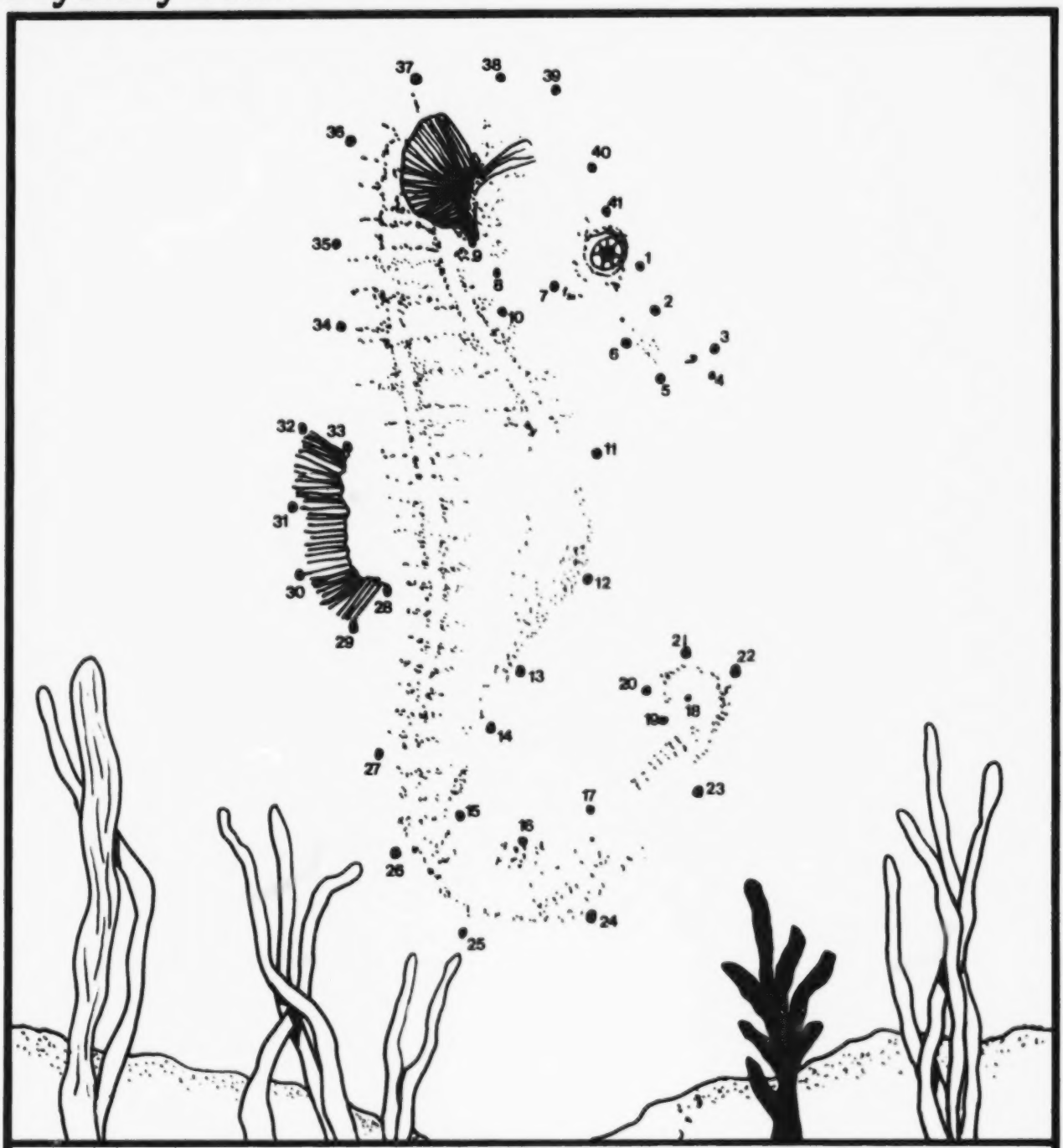
E. _ _ _ _ _ _ _ _ _
18 8 5 15 20 1 24 9 19
Fishes swimming into a current.

F. _ _ _ _ _ _ _ _ _ _
1 20 20 1 3 8 13 5 14 20
The way in which sea star tube feet hold on to a surface.

Alphabet	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Look at the alphabet code. Place the correct letter in the space above its matching number to decode the adaptation word which is opposite its meaning.

Mystery Fish



This animal is a fish. Connect the dots and name it.

_____

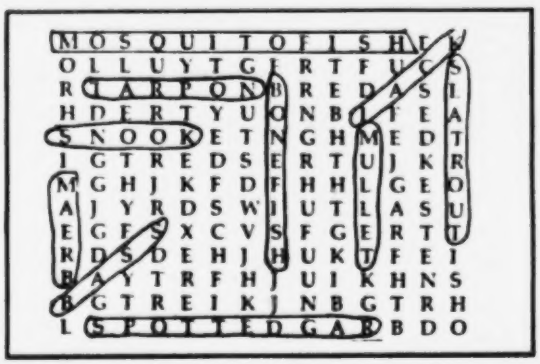
Answer Page

Page 4
1. Red Mangrove
2. Poisonwood
3. Cypress
4. Slash Pine

Page 5
Fire Ecology Code

Page 6
All will be destroyed.

Page 7
Hidden Word



Pages 8/9
The polar bear, coyote and elephant do not live in the Everglades.

Page 10
1. Puma
2. Cougar
3. Mountain Lion

Pages 12/13
A rookery is a large nesting place for birds.
Penguin and roadrunner do not live in the Everglades.
1. Wading bird/Limpkin
2. Water bird/Anhinga
3. Bird of prey/Southern Bald Eagle
4. Land bird/Pileated Woodpecker

Page 14
A. Tearing meat
B. Cracking seeds
C. Scooping Fish
D. Pecking holes in wood
E. Running
F. Swimming
G. Perching on branch
H. Catching prey

Page 15
1. White-crowned pigeon
2. Fruit
3. Eagle
4. Circle all

Pages 18/19
Alligator
Prefers freshwater
Teeth covered when mouth closed
Broader head
Nests in vegetation

Crocodile
Narrower head
Live in salt marshes
Teeth are exposed
More dangerous
Nests on sandy beaches
Is the most rare in Everglades

Both
Is a carnivore
Is found wild in the Everglades
Young are hatched from eggs
Endangered in wild

Pages 20/21
1. Panther
2. Manatee
3. Southern Bald Eagle
4. Green Turtle
5. Cape Sable Sparrow
6. Wood Stork
7. Red Cockaded Woodpecker
8. American Alligator
9. American Crocodile
10. Eastern Indigo Snake

Page 22
A. Cormorant
B. Egret
C. Gull
D. Kingfisher
E. Pelican

Page 23
Deer

Pages 28/29
Dolphin
Tail moves up and down. Has lungs, must surface to breathe.
Shark
Tail moves side to side. Breathes underwater with gills.
Both
Eat fish. Have dorsal fin.

page 30
A. Camouflage
B. Symbiosis
C. Territory
D. Schooling
E. Rheotaxis
F. Attachment

Page 31
Sea Horse

This book belongs to:

Become involved in wildlife conservation. For information contact:

World Wildlife Fund (aids threatened wildlife worldwide)
1319 18th Street N.W.
Washington, D.C. 20031

National Audubon Society (research and lobbying for wildlife and wilderness)
645 Pennsylvania Ave. S.E.
Washington, D.C. 20036

National Wildlife Federation (Ranger Rick)
1412 16th Street N.W.
Washington, D.C. 20036

Florida National Parks and Monument Association (furthering interest in understanding National Parks in South Florida)
P.O. Box 279
Homestead, Florida 33030

Florida Audubon Society (promotes wildlife conservation within Florida)
1101 Audubon Way
Maitland, Florida 32751